

	Middle Years Programme	Form F3.1
	Moderation coversheet: Subjects	

Please complete a copy of this form for **each** folder of work submitted for moderation.

Please ensure that the material being submitted for moderation conforms to the requirements set out in the relevant subject group guide. All the criteria **must be applied twice** within the folder accompanying this form, unless stated otherwise in the subject guide.

School name: VICTORIAL SHANGHAI ACADEMY School code: 2634
 Student's name/number: Marvin Li Subject: MATHS (STANDARD)

The student's work is (please mark box):

☐ comparatively good ☒ average ☐ comparatively weak

Nature and title of assessment task		Criteria					
		A	B	C	D	E	F
1. Test	Teacher	4		4			
	Moderator						
2. The Bench	Teacher	7		4	4		
	Moderator						
3. The Company Report	Teacher		5		2		
	Moderator						
4. A Trig Identity	Teacher		5				
	Moderator						
5.	Teacher						
	Moderator						
6.	Teacher						
	Moderator						

Please use the reverse of this form or separate sheets to identify the conditions under which each piece of work was done (project, classroom test, end-of-term examination, and so on), the amount of support provided, any special circumstances, and general/specific information on the student. Provide any information that may assist the moderators in determining how the criteria were applied.

Name of teacher: Daniel Slosberg

Signature of teacher:  Date: March 22, 2013

Names of teachers involved in internal standardization for this subject:

Bonnie Luk (MYP 4 & 5), Daniel Slosberg (MYP 5), Yush Yuen (MYP 4)

Teacher's Comments:

Task	Criterion	General remarks
Test	A - 4	There is no doubt that the students have the skill to solve some of the complex problems. Although the student is able to work on part of question 5, which is in the Challenging problem, the part is only for guiding it towards the real challenging part. This reason also applies on question 7 for the unfamiliar question.
	C - 4	Overall, works are presented logical, especially on the question 5a on the proves. Other then the geometry questions, very less evidence is provided to enhance the grade.

Task	Criterion	General remarks
The Bench	A - 7	<p>Marvin has created his chair from a circle (unfamiliar function) which has been shifted and stretched, a shifted parabola, and two “rotated” (reflected over the line $y=x$ and $y=-x$, but this was not a transformation which was taught in class and it does appear to the students that doing this rotated the parabola). He works hard to describe in detail how he has made these transformations.</p> <p>On page 5, a vertical transformation is clearly described on a parabola. The 2 of the squared is not showing up on the .pdf, but it is clear from his words that it is intended despite the fact that he says “square root” instead of “squared.” On page 6 there is a similar difficulty on the y^2.</p> <p>Because he has consistently made appropriate deductions in constructing a very challenging chair using both an unfamiliar function and an unfamiliar transformation, and he has described these transformations as transformations, Marvin is clearly in the level 7-8 band. Significant errors in the percentage error table prevented him from achieving a level 8.</p>
	C - 4	<p>It is clear on page 4 that Marvin is exploring circles and ellipses, two unfamiliar functions. He is describing how by decreasing the coefficient on x^2, the ellipse becomes wider compared to its height. His description is by no means complete and a few additional screen shots as well as more specific terminology would have helped a great deal. His mathematical language is not good, but as a second language learner he has made himself understood.</p>
	D - 4	<p>On pages 2 and 3 Marvin describes the importance in real life of his bench, and on page 7 he attempts to calculate his degree of accuracy using the percentage error formula. He does not describe possible improvements.</p>

The Company Report	B - 5	<p>It was a struggle to determine Marvin's grade for criterion B. On page 12 he clearly graphs the data and states it shows a "proper flow in the total dividend." It is clear he has seen a pattern and earned a level 2. On page 13, he graphs the differences but does not state the numbers involved or the average difference for his general rule. On page 6, he shows clearly that he is able to find both the average difference and the average ratio, so we very comfortable that a level 3 had been earned (he demonstrated his ability to begin to suggest the general rule for the exponential function (he was graded on his AP in criterion A) by finding the base of the exponential (common ratio)).</p> <p>The debate at standardization (between a 3 and a 5) focused on the graph on page 15. It is very clear that Marvin has, in fact, created a general rule which is an exponential function consistent with his earlier finding of "proper flow" and mostly consistent with the findings shown but not discussed on page 13. He has not, however, stated the common ratio (roughly 2.1 judging from the graph) or the equation anywhere on the paper. The common ratio is too large for the data set, so we felt the level 6 was not earned.</p> <p>In the end we decided Marvin earned a level 5 because the general rule was more than suggested but less than described and was mostly consistent but somewhat inconsistent with his findings.</p>
	D - 2	<p>On page 18, Marvin connects his findings to the real world of a stock broker. On page 19, he barely starts what should be a percentage error calculation and on page 20 there is nothing added about improvements. He has only earned a level 2.</p>

A Trig Identity	B - 5	Marvin's general rule was that $\tan(2x)$ always has a $\sqrt{3}$ in it. This was not the pattern we were expecting, but we felt it was using $\sin(2x)$ and $\cos(2x)$ which is what we asked, and it was consistent with the data he explored. He tested 60° and 120° as well for $\sin(2x)$ and $\cos(2x)$, but did not put those values in his $\tan(2x)$ table although they would have fit his pattern. We did not feel his answer to question 5 was enough of a justification to warrant the level 7-8 band. According to the guide, "a student who describes a general rule consistent with incorrect findings will still be able to achieve in the 5-6 band, provided that the rule is of an equivalent level of complexity," and while we felt this was somewhat simpler than what we intended, it was almost at the level of $\sin(2x) = 2 \sin(x) \cos(x)$ which was an intended solution so we agreed on a level 5 as opposed to a 6.
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